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| EXAMINER | |
|---|---|
| SILVER, DAVID | |
| **ART UNIT** | **PAPER NUMBER** |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/724,586 | BISHOP ET AL. | |
| | Examiner | Art Unit | |
| | David Silver | 2128 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *20 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-6,8-19,21-31,33-44,46-55,57-65 and 68-70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-19,21-31,33-44,46-55,57-65 and 68-70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/20/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. Claims 1-70 were originally presented for examination.

2. Claims 1-70 were rejected.

3. Claims 1-6, 8-19, 21-31, 33-44, 46-55, 57-65 and 68-70 are currently pending in Instant Application.

4. The Instant Application is not currently in condition for allowance.

### *Priority*

5. Priority not claimed **(Effective Filing: 11/28/2003)**.

### *Information Disclosure Statement*

6. The information disclosure statement (IDS) submitted on 4/20/2007 is in compliance with the provisions of 37 CFR 1.97 and accordingly the information disclosure statement is being considered if signed and initialed by the Examiner.

### *Response to Arguments*

### *Response: Drawings Objection*

7. **Background:**

"The Office Action states that Figure 1 and 4 should be designated as --Prior Art--because only that which is old is illustrated (distribution curves and a computer system, respectively)." (Remarks: page 16)

8. **Applicants argue:**

"Figures 1 and 4 have been amended to show designation "Prior Art." The replacement sheets are attached. Accordingly, the Applicant respectfully requests that the drawing objections be withdrawn." (Remarks: page 16)

9. **Examiner Response:**

Applicants are thanked for labeling the drawings as prior art. Objection has been withdrawn.

### *Response: 35 USC § 101*

10. **Background:**

"Claims 1-70 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The Office Action states that the claims merely recite a software algorithm, per se, and therefore do not produce a useful, tangible, and concrete result. Software per se is not considered concrete under MPEP 2106." (Remarks: page 16)

11. **Applicants argue:**

"Claim 1 has been amended to recite "outputting the probability density." The Applicant submits that amended claim 1 recites a useful, tangible, and concrete result. Independent claims 14, 27, 39, 50, and 61 have been amended similarly as claim 1. Accordingly, the Applicant respectfully requests that the § 101 rejections be withdrawn." (Remarks: page 16)

12. **Examiner Response:**

> "The claimed invention as a whole must >be useful and< accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at *>1373-74<, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96 **> (1966); In re Fisher, 421 F.3d 1365, 76 USPQ2d 1225 (Fed. Cir. 2005); In re Ziegler, 992 F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993))." (MPEP 2106)

Applicants are thanked for providing a tangible output to the claimed invention. However, the claimed invention lacks a real-world practical application. Thus, it remains drawn to non-statutory subject matter. See MPEP 2106 (relevant portion cited above). Applicants are claiming a method of computing, which is merely a concept without a real world value.

***Response: 35 USC § 112 First Paragraph Rejections***

13. **Background:**

"Claims 7, 20, 32, 45, 56, and 66 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The Office Action states that the claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention." (Remarks: page 17-18)

14. **Applicants argue:**

"The Office Action states that as per claim 7, 20, 32, 45, 56, and 66, the specification fails to comply with the written description requirement because it does not properly disclose "labeling parameter." The Applicant assumes that this rejection was mistakenly placed under the enablement rejections and is a repeat of the written description rejection to "labeling parameter" of paragraph 6.2 of the Office Action.

Claims 7, 20, 32, 45, 56, and 66 have been cancelled.

As per claims 12, 25, and 37, the Office Action states that the claims fail to enable "determining a correct number of speakers from the probability density modeling the input set of data."

Claims 12, 25 and 37 have been amended to remove "determining a correct number of speakers from the probability density modeling the input set of data."

As per claims 13, 26, and 38, the Office Action states that the claims fail to enable "input set of data represents image segmentation data from images having regions of different characteristics."

Claims 13, 26, 38 have been amended to remove "having regions of different characteristics."

In view of the above claim amendments, the Applicant submits that the instant § 112P 1 rejections as to the enablement requirement have been overcome.

Accordingly, the Applicant respectfully requests that the enablement requirement rejections be withdrawn." (Remarks: page 17-18)

15. **Examiner Response:**

Applicants are thanked for removing the deficiencies. Rejections have been withdrawn.

16. **Background:**

"Claims 1-70 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement."

17. **Applicants argue:**

17.1 "As per claims 1-70, the Office Action states that the specification does not explain what makes an approximation "tractable."

The Applicant submits that when the term "tractable" is read in context with the phrase "tractable approximation," the written description requirement of § 112P1 is met.

17.2 "As per claims 7, 20, 32, 45, 56, and 66, the Office Action states that the specification fails to comply with the written description requirement because it does not properly disclose "labeling parameter."

Claims 7, 20, 32, 45, 56, and 66 have been cancelled.

17.3 "As per claims 12, 25, 37, the Office Action states that the specification fails to comply with the written description requirement because it does not reasonably disclose in accordance with 35 U.S.C. 112, first paragraph, how "determining a correct number of speakers from the probability density modeling the input set of data" is performed.

Claims 12, 25 and 37 have been amended to remove "determining a correct number of speakers from the probability density modeling the input set of data."

17.4 "As per claims 13, 26, and 38, the Office Action states that the specification fails to comply with the written description requirement because it does not reasonably disclose in accordance with 35 U.S.C. 112, first paragraph, "input set of data represents image segmentation data from images having regions of different characteristics."

Claims 13, 26, 38 have been amended to remove "having regions of different characteristics."

In view of the above claim amendments, the Applicant submits that the instant § 112P 1 rejections as to the written description requirement have been overcome." (Remarks: page 18)

18. **Examiner Response:**

Regarding subsection 1 *supra*, Applicants present a conclusionary statement. The term "tractable" is not adequately described in the Specification. Reading the term in context of "tractable approximation" does not help resolve the Claim's and Specification's deficiency.

The grounds of rejections have been partially withdrawn or made moot by removal / cancellation of the deficient claim language in view of the above.

***Response: 35 USC § 112 Second Paragraph Rejections***

19. **Background (Remarks: page 19-20):**

19.1 "Claims 1-70 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting an essential step of establishing a result of performing the method, or the claimed system performing its method."

19.2 "Claims 1-70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. The Office Action states that the term "satisfactorily optimized" in claims 1, 2, 14, 15, 27, 39, 40, 41, 50, 51, 52, and 61 is a relative term that renders the claims indefinite, and that the term "satisfactorily optimized" is not defined by the claims or the specification."

19.3 "The Office Action states that the term "tractable" is also relative and ambiguous, and therefore renders the claims 1-70 indefinite."

19.4 Claims 1-70 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: optimization. Specifically, the claims recite "if the lower bound is (not) satisfactorily optimized"; however, optimization is missing from the claims.

20. **Applicants argue (Remarks: page 19-20):**

20.1 "Claim 1 has been amended to recite "outputting the probability density." The Applicant submits that amended claim 1 recites a result. Independent claims 14, 27, 39, 50, and 61 have been amended similarly as claim 1. Accordingly, the Applicant respectfully requests that the rejections to omitting an essential step of establishing a result of the method or system performing the method by withdrawn."

20.2 "Independent claims 1, 14, and 27 have been amended to recite "determining if the lower bound has been satisfactorily optimized, wherein the lower bound is satisfactorily optimized when the computed lower bound has changed less than a threshold amount from a previously computed lower bound." Independent claims 39, 50, and 61 have been amended to recite "determining whether current estimates of the posterior distributions of the modeling parameters are satisfactorily

optimized in relation to a predetermined criterion." No new matter has been added; the Examiner's attention is directed to at least page 17, lines 3-12, of the Applicant's specification as originally filed."

20.3 "The Applicant submits that when the term "tractable" is read in context with the phrase "tractable approximation," claims 1-70 meet the requirements of definiteness under § 112P2. The Applicant submits that one skilled in art would understand what is claimed by the claim language "tractable approximation" when read in light of the Applicant's specification." (emphasis in original)

21. **Examiner Response:**

21.1 Regarding subsection 1-3 *supra*, Applicants are thanked for amending the claims in order to overcome the 35 USC 112 rejections.

21.2 Regarding subsection 4 *supra*, Applicants' arguments are merely conclusionary. The term "tractable" is not adequately described in the Specification and renders the claims indefinite because it is ambiguous. Reading the term in context of "tractable approximation" does not help resolve the Claim's and Specification's deficiency.

The grounds of rejections have been partially withdrawn in view of the above.

***Response: 35 U.S.C. § 102***

22. **Background:**

Claims 1-11, 14-24, 27-36 and 39-70 stand rejected under 35 USC 102(b) as being anticipated by Heckerman (US 5704018).

Claims 12-13, 25-26, and 37-38 are rejected under 35 USC 103(a) as being unpatentable over Heckerman (US 5704018) and further in view of Official Notice.

23. **Applicants argue:**

"Heckerman is directed to generating improved belief networks. The Examiner cites Heckerman col. 2, lines 5-23, which discusses discrete and continuous variable types. The Examiner also cites Heckerman, col. 7, lines 14-27, which discusses Bayes' theorem. However, these citations in Heckerman fail to disclose "generating a probability density modeling the input set of data, the probability density including the mixture of Student distribution components, the mixture of Student

distribution components being characterized by the current estimates of the posterior distributions of the modeling parameters, if the lower bound is satisfactorily optimized" as expressly claimed by the Applicant.

Thus, Heckerman fails to disclose at least one of the expressly recited limitations of claim 1. Accordingly, claim 1 is not anticipated by Heckerman. Independent claims 14, 27, 39, 50, and 61 distinguish for at least the same reason as claim 1. Claims 2-13, 15-26, 28-38, 40-49, 51-60, and 62-70 are dependent claims and distinguish for at least the same reasons as their independent base claims in addition to adding further limitations of their own. Therefore, the Applicant respectfully requests that the instant § 102 and § 103 rejections to claims 1-70 be withdrawn." (Remarks: bottom page 21 to top page 22)

24. **Examiner Response:**

It is noted that the claim language does not necessitate the argued limitation. Specifically, the limitation is conditional on "if the lower bound is satisfactorily optimized". Thus, when the lower bound is not satisfactorily optimized the limitation is not necessitated. See MPEP 2111.04.

Nevertheless, Applicants' attention is drawn to **(Heckerman: col: 7 line: 14-27)**, which recites:

> The calculate discrete score routine, the calculate continuous score routine and the calculate mixed score routine are based upon a common concept, Bayes' theorem. The score that each scoring routine produces is proportional to the posterior probability of the test network. That is, probability distributions and densities can be of two types: prior and posterior. The prior probability distribution or density is the probability distribution or density before data is observed. The posterior probability distribution or density is the probability distribution or density after data is observed. Bayes' theorem states that the posterior probability of a test network is proportional to the prior probability of a test network multiplied by the probability of the empirical data database given the test network and the expert knowledge.

The disclosed expert knowledge disclosed by Heckerman is based on input information **(Fig 5 and description)**. Because a Student distribution components being characterized by the current estimates of the posterior distributions of the modeling parameters correlates to the "score" disclosed by Heckerman **(Fig 6 element 602/607 and description)**.

Applicants' arguments have been fully considered but are unpersuasive.

***Claim Rejections - 35 USC § 101***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

25. Claims 1-70 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

> "The claimed invention as a whole must >be useful and< accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at *>1373-74<, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96 **> (1966); In re Fisher, 421 F.3d 1365, 76 USPQ2d 1225 (Fed. Cir. 2005); In re Ziegler, 992 F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993))." (MPEP 2106)

The claimed invention lacks a real-world practical application. Thus, it remains drawn to non-statutory subject matter. See MPEP 2106 (relevant portion cited above). Applicants are claiming a method of computing, which is merely a concept without a real world value. The claimed invention of computing approximation of a posterior distribution is not applied in a practical manner which provides a real-world value, rather, it represents nothing more than an idea of performing an abstract manipulation of mathematical constructs.

### *Claim Rejections - 35 USC § 112*

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

26. Claims 1-70 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the **written description requirement**. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As per claims 1-70, the Specification does not explain what makes an approximation "tractable". How is a "tractable" approximation performed? Furthermore, the Specification does not define what makes an approximation tractable.

27. Claims 1-70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 1-70, the term "tractable" is defined as:

> "tractable adj. 1. Easily managed or controlled; governable. 2. Easily handled or worked; malleable." (Source: http://www.answers.com/tractable&r=67).

The term is relative and ambiguous. The term renders the claim indefinite.

***Claim Rejections - 35 U.S.C. § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

28. Claims 1-6, 8-11, 14-19, 21-24, 27-31, 33-36, and 39-44, 46-55, 57-65, 67-70 are rejected under 35 U.S.C. 102(b) as being anticipated by Heckerman **(US 5,704,018)**.

Heckerman discloses: 1. A method comprising:

selecting a modeling parameter from a plurality of modeling parameters characterizing a mixture of Student distribution components **(col: 7 line: 42-56; student distribution ... col: 16 line: 6-37 (emphasis on 34-37))**;

computing a tractable approximation of a posterior distribution for the selected modeling parameter based on an input set of data and a current estimate of a posterior distribution of at least one unselected modeling parameter in the plurality of modeling parameters **(col: 7 line: 14-27; col: 8 line: 43-49; col: 10 line: 57-67)**;

computing a lower bound of a log marginal likelihood as a function of current estimates of the posterior distributions of the modeling parameters, the current estimates of the posterior distributions of the modeling parameters including the computed tractable approximation of the posterior distribution of the selected modeling parameter **(col: 11 line: 12-17; col: 10 line: 5-30)**;

determining if the lower bound has been satisfactorily optimized, wherein the lower bound is satisfactorily optimized when the computer lower bound has changed less than a threshold amount from a previous computed lower bound **(col: 6 line: 36-47)**;

generating a probability density modeling the input set of data, the probability density including the mixture of Student distribution components, the mixture of Student distribution components being characterized by the current estimates of the posterior distributions of the modeling parameters, if the lower bound is satisfactorily optimized; outputting the probability density **(col: 2 line: 5-23; col: 7 line: 14-27)**.

Heckerman discloses: 2. The method of claim 1 wherein the computing operations comprise a first iteration and further comprising:

selecting a different modeling parameter from the plurality of modeling parameters and repeating in a subsequent iteration the operations of computing a tractable approximation and computing a lower bound using the newly selected modeling parameter, if the lower bound is not satisfactorily optimized in the first iteration**(col: 6 line: 32-56 with emphasis on line: 36-51)**.

Heckerman discloses: 3. The method of claim 1 wherein computing a lower bound comprises:

computing the lower bound of the log marginal likelihood as a function of prior distributions of the modeling parameters **(col: 4 line: 39-56; Fig 4, 5, 6 and descriptions; col: 5 line: 33-51)**.

Heckerman discloses: 4. The method of claim 1 wherein computing a tractable approximation of a posterior distribution comprises:

computing a variational approximation of the posterior distribution of the selected modeling parameter **(col: 13 line: 30-65 with emphasis on 45-56)**.

Heckerman discloses: 5. The method of claim 1 wherein one of the plurality of modeling parameters represents a mean of each of the Student distribution components **(col: 7 line: 65-67 "average"; col: 10 line: 48-49; col: 7 line: 56-65)**.

Heckerman discloses: 6. The method of claim 1 wherein one of the plurality of modeling parameters represents a precision matrix of the Student distribution components **(col: 13 line: 65 to col: 14 line: 25; Fig 9A and 9B and their descriptions; col: 14 line: 26-64)**.

Heckerman discloses: 8. The method of claim 1 wherein one of the plurality of modeling parameters represents a scaling parameter of a precision matrix of the Student distribution components **(col: 18 line: 31-49 scaling parameter ... "weights")**.

Heckerman discloses: 9. The method of claim 1 wherein one of the plurality of modeling parameters represents a mixing coefficients parameter of the Student distribution components **(col: 16 line: 58 to**

**col: 17 line: 2; col: 16 line: 47-56; col: 7 line: 1-20).**

Heckerman discloses: 10. The method of claim 1 wherein generating a probability density comprises:

generating the probability density including the mixture of Student distribution components, the mixture of Student distribution components being characterized by the current estimates of the posterior distributions of the modeling parameters and an estimate of the number of degrees of freedom of each Student distribution component **(this is an inherent features of the cited reference's distribution).**

Heckerman discloses: 11. The method of claim 1 further comprising:

storing the current estimates of the posterior distributions of the modeling parameters in a storage location **(Fig 8B item 820; Fig 6 and its description).**

As per claims 14-19, 21-24, 27-31, 33-36, and 39-44, 46-55, 57-65, 67-70, note the rejection of claims 1-6, 8-11 above. The Instant Claims recite substantially same limitations as the above-rejected claims and therefore rejected under same prior-art teachings.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

29. Claims 12-13, 25-26, and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heckerman **(US 5,704,018)** as applied to claim 1 above, and further in view of Official Notice taken.

As per claim 12, Heckerman discloses all limitations of claim 1. Heckerman however does not expressly disclose that the input set of data represents auditory speech data from an unknown number of speakers. Official Notice is taken with respect to this limitation. It would have been obvious to one of ordinary skill in the art <digital signal processing / statistical analysis> at the time of Applicant's invention to combine the features in order to apply the features taught by Heckerman in order to use them on digital signal processing systems such as sound or image processing in order to *efficiently and quickly process the digital signals*. Furthermore, having knowledge of the number of speakers is useful in speech recognition. One would be motivated to know the number of speakers in a conference in order to transcribe the presentations and feedback questions through computer automated methods. See, for

example, Rajan **(US 20020055913 A1)**.

As per claim 13, Heckerman discloses all limitations of claim 1. Heckerman however does not expressly disclose that the input set of data represents image segmentation data from images. Official Notice is taken with respect to this limitation. It would have been obvious to one of ordinary skill in the art <digital signal processing / statistical analysis> at the time of Applicant's invention to combine the references in order to apply the features taught by Heckerman in order to use them on digital signal processing systems such as sound or image processing in order to efficiently and quickly process the digital signals.

As per claims 25-26, note the rejection of claims 12-13 above. The Instant Claims recite(s) substantially same limitations as the above-rejected claims and therefore rejected under same prior-art teachings.

As per claims 37-38, note the rejection of claims 12-13 above. The Instant Claims recite(s) substantially same limitations as the above-rejected claims and therefore rejected under same prior-art teachings.

***Conclusion***

30. All claims are rejected.

31. The Instant Application is not currently in condition for allowance.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Silver whose telephone number is (571) 272-8634. The examiner can normally be

reached on Monday thru Friday, 10am to 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Silver
Patent Examiner
Art Unit 2128

KAMINI SHAH
SUPERVISORY PATENT EXAMINER